AMENDMENTS TO THE CLAIMS

1.   (Previously Presented)   A synchronization establishing and tracking circuit for a CDMA base station comprising:

      a first spreading code generator generating a first spreading code sequence;

      a first correlator calculating first correlation between said first spreading code sequence and a first quasi-coherent signal corresponding to a first received signal received by said CDMA base station;

      a second spreading code generator generating a second spreading code sequence;

      a second correlator calculating second correlation between said second spreading code sequence and a second quasi-coherent signal corresponding to a second received signal received by said CDMA base station; and

      a phase determining circuit determining a first phase of said first spreading code sequence based on an added quasi-coherent signal which is said first and second quasi-coherent signals added together.

2.   (Original)   A synchronization establishing and tracking circuit according to claim 1, wherein said phase determining circuit includes:

      a ranking portion determining a plurality of target phases based on said added quasi-coherent signal; and

      a phase setting circuit setting said first phase to a selected phase selected from among said target phases.

3. (Currently Amended) A synchronization establishing and tracking circuit according to claim 2, wherein said ranking portion determines an order for said target phases based on said added quasi-coherent signal, and

wherein said phase setting circuit selects said selected phase in accordance with [[said]] an order of priority.

4. (Currently Amended) A synchronization establishing and tracking circuit according to claim 2, wherein said ranking portion comprises:

a phase determining spreading code generator generating a phase determining spreading code sequence, wherein a phase of said phase determining spreading code sequence is sequentially shifted to one of the target phases;

a phase determining correlator calculating correlation between said phase determining spreading code sequence and said added quasi-coherent signal to determine added signal correlation values respectively corresponding to [[said]] candidate phases;

a ranking circuit selecting said target phases based on said added signal correlation values.

5. (Currently Amended) A synchronization establishing and tracking circuit according to claim 1, further comprising:

a maximum correlation phase determining circuit determining a despreading phase based on said first correlation;

a despreading circuit despreading said first quasi-coherent signal to produce a despread signal using another a third spreading code sequence having said despreading phase; and

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a synchronization detecting circuit detecting a synchronization of said first quasi-coherent signal with said ~~another~~ a third spreading code sequence to output a synchronization informing signal informing said first spreading code generator of said synchronization, wherein said first spreading code generator fixes said first phase based on [[said]] the synchronization informing signal such that [[said]] the synchronization of said first quasi-coherent signal with [[said]] a despreading spreading code sequence is established.

6.   (Original)   A synchronization establishing and tracking circuit according to claim 1, wherein said phase determining circuit determining a second phase of said second spreading code sequence based on said added quasi-coherent signal.

7.   (Currently Amended)   A synchronization establishing and tracking circuit according to claim 6, wherein said [[a]] phase determining circuit includes:

a ranking portion which determines a plurality of target phases based on said added quasi-coherent signal; and

a phase setting circuit setting said first and second phases to a selected phase selected from among said target phases.

8.   (Currently Amended)   A synchronization establishing and tracking circuit according to claim 7, wherein said ranking portion determines an order for said plurality of target phases based on said added quasi-coherent signal, and

wherein said phase setting circuit selects said selected phase in accordance with [[said]] an order of priority.

9.   (Currently Amended)   A synchronization establishing and tracking circuit according to claim 7, wherein said ranking portion comprises:

a phase determining spreading code generator generating a phase determining spreading code sequence, wherein a phase of said phase determining spreading code sequence is sequentially shifted to one of <u>a plurality of</u> candidate phases;

a phase determining correlator calculating correlation between said phase determining spreading code sequence and said added quasi-coherent signal to determine added signal correlation values respectively corresponding to different phases of said target phases;

a ranking circuit selecting said target phases based on said <u>added signal</u> correlation values.

10.   (Original)   A synchronization establishing and tracking circuit according to claim 1, further comprising:

a first maximum correlation phase determining circuit determining a first despreading phase based on said first correlation;

a first despreading circuit despreading said first quasi-coherent signal to produce a first despread signal using a third spreading code sequence having said first despreading phase;

a second maximum correlation phase determining circuit determining a second despreading phase based on said second correlation;

a second despreading circuit despreading said second quasi-coherent signal to produce a second despread signal using a fourth despreading spreading code sequence having said second despreading phase; and

a space diversity circuit identifying a direction of a mobile station transmitting at least one of said first and second received signals, based on said first and second despread signals.

11.   (Currently Amended)   A synchronization establishing and tracking circuit for a CDMA base station comprising:

a spreading code generator generating a spreading code sequence;

a correlator calculating correlation between said spreading code sequence and a quasi-coherent signal corresponding to a received signal received by said CDMA base station;

a ranking circuit storing a plurality of ranked phases based on said quasi-coherent signal; and

a phase setting circuit setting a phase to a selected phase selected from among said plurality of ranked phases.

12.   (Previously Presented)   A synchronization establishing and tracking circuit according to claim 11, further comprising:

an adding circuit adding said quasi-coherent signal and at least one other quasi-coherent signal to produce an added quasi-coherent signal, wherein said other quasi-coherent signal corresponds to one or more other received signal received by said CDMA base station, and wherein said plurality of ranked phases are determined based on said added quasi-coherent signal.

13.   (Previously Presented)   A synchronization establishing and tracking method for a CDMA base station comprising:

generating a first spreading code sequence;

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calculating first correlation between said first spreading code sequence and a first quasi-coherent signal corresponding to a first received signal received by said CDMA base station;

generating a second spreading code sequence;

calculating second correlation between said second spreading code sequence and a second quasi-coherent signal corresponding to a second received signal received by said CDMA base station;

producing an added quasi-coherent signal by adding said first and second quasi-coherent signals; and

determining a first phase of said first spreading code sequence based on said added quasi-coherent signal.

14.   (Original)   A synchronization establishing and tracking method according to claim 13, further comprising:

determining a plurality of target phases based on said added quasi-coherent signal;

selecting a selected phase from among said plurality of target phases;

setting said first phase to said selected phase.

15.   (Original)   A synchronization establishing and tracking method according to claim 14, wherein said selecting includes:

determining an order of priority for said target phases based on said added quasi-coherent signal; and

selecting said selected phase based on said order of priority.

16.   (Currently Amended)   A synchronization establishing and tracking method according to claim 14, wherein said determining said plurality of target phases includes:

generating a phase determining spreading code sequence such that a phase of said phase determining spreading code sequence is sequentially shifted to one of the target phases;

calculating correlation between said phase determining spreading code sequence and said added quasi-coherent signal to determine added signal correlation values respectively corresponding to said target phases; and

selecting said target phases from among [[said]] candidate phases based on said <u>added signal</u> correlation values.

17.   (Currently Amended)   A synchronization establishing and tracking method according to claim 13, further comprising:

determining a despreading phase based on said first correlation;

despreading said first quasi-coherent signal to produce a despread signal using ~~another~~ <u>a third</u> spreading code sequence having said despreading phase;

detecting a synchronization of said first quasi-coherent signal with said ~~another~~ <u>a third</u> spreading code sequence to output a synchronization informing signal indicative of [[said]] <u>the</u> synchronization; and

fixing said first phase based on [[said]] <u>the</u> synchronization informing signal such that said synchronization of said first quasi-coherent signal with said ~~another~~ <u>a third</u> spreading code sequence is established.

18.   (Currently Amended)   A synchronization establishing and tracking method according to claim 13, further comprising:

determining a second phase of said second spreading code sequence based on <u>an</u> added semi-synchronous signal.

19.   (Currently Amended)   A synchronization establishing and tracking method according to claim 18, further comprising:

determining a plurality of target phases based on said added quasi-coherent signal; and

setting said first and second phases to a selected phase selected from among [[said]] ranked phases.

20.   (Original)   A synchronization establishing and tracking method according to claim 13, further comprising:

determining a first despreading phase based on said first correlation;

despreading said first quasi-coherent signal to produce a first despread signal using a third spreading code sequence having said first despreading phase;

determining a second despreading phase based on said second correlation;

despreading said second quasi-coherent signal to produce a second despread signal using a fourth spreading code sequence having said second despreading phase; and

identifying a direction of a mobile station transmitting at least one of said first and second received signals, based on said first and second despread signals.

21.   (Currently Amended)   A synchronization establishing and tracking method for a CDMA base station comprising:

generating a spreading code sequence;

calculating correlation between said spreading code sequence and a quasi-coherent signal corresponding to a first received signal received by said CDMA base station;

storing a plurality of ranked phases <u>said phases ranked based on said quasi-coherent signal</u>; and

setting phase to a selected phase selected from among said plurality of ranked phases.

22.   (Currently Amended)   A synchronization establishing and tracking method according to claim 20, further comprising:

adding said <u>first</u> quasi-coherent signal and at least one other quasi-coherent signal to produce an added quasi-coherent signal, wherein said other quasi-coherent signal corresponds to one or more other received signal received by the CDMA station, and

wherein [[said]] <u>a</u> plurality of ranked phases are determined based on an added quasi-coherent signal.